



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Reissue application of:

HAROLD A. MCMASTER et al.

Serial No. 775,418

Filed: October 15, 1991

For: GLASS SHEET BENDING AND TEMPERING APPARATUS

Attorney Docket No. GLT 1225 R

Group Art Unit: 1303

Examiner: K. Schor

DECLARATION AND POWER OF ATTORNEY

SUBSTITUTE REISSUE DECLARATION

Hon. Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

The undersigned applicants for reissue, Harold A. McMaster, 9902 Sheffield Road, Perrysburg, Ohio 43551; Norman C. Nitschke, 29737 E. River Road, Perrysburg, Ohio 43551; Dexter H. McMaster, 1070 Elm Street, Perrysburg, Ohio 43551; and Ronald A. McMaster, 315 E. Front Street, Perrysburg, Ohio 43551 declare that:

1) They are citizens of the United States of America and residents of the State of Ohio;

2) They believe themselves to be the original, first and joint inventors of the invention described and claimed in Letters Patent no. 4,883,527 and in the above-identified reissue application and for which they solicit a reissue patent;

3) They do not know and do not believe that said invention was ever used before their invention thereof;

4) They believe said patent to be wholly or partly inoperative by reason of insufficiency in the claims by claiming less than they had the right to claim in said patent;

NOT SIGNED

5) That such insufficiency specifically is due to not sufficiently broadly defining the apparatus of their invention by including in patent claim 1, *inter alia* limitations to

a glass "bending and tempering" apparatus and an actuator

"for deforming said platen from a planar shape to a bent shape" and

"constrainable and having the ability to lift portions of said first platen a controlled distance to form the desired bent shape . . ."

whereas the coverage to which they are entitled are embodied as in claims 17 through 20, wherein claim 17 broadly defines a glass tempering apparatus comprising, *inter alia*, "opposed first and second deformable platens, each of which has quench openings that move with the platens during deformation" in combination with "means for supplying quenching gas through the quench openings to temper the bent glass sheet" as disclosed in the specification and to which Applicants have a right to claim in view of the cited prior art; and wherein claims 18 and 19 broadly define glass bending and tempering apparatus having first and second deformable platens, each including "a deformable quench portion having quench openings that move with the platens" and in which "the quench portions (are) opposing each other with a bent glass sheet therebetween," in combination with "means to supply quenching gas through the quench openings to temper the bent glass sheet," as disclosed in the specification and to which Applicants have a right to claim in view of such art.

6) That such insufficiency arose through error; and

7) That the foregoing errors arose without any deceptive intention on their part.

Claim 20 of the present reissue application has been modified in an immaterial way from claim 5 of United

States Patent No. 5,009,693, issued to Kenneth Freidel et al. on April 23, 1991, and assigned to Muirfield Holdings L.P. for the purpose of provoking an interference. Claim 20 defines in a more limited way apparatus for bending and tempering glass sheets by, *inter alia*, platens defined by upper and lower "quench tubes arranged in longitudinal rows which are spaced apart" and "supported on a support" in combination with rollers "rotatably mounted between pairs of lower quench tubes for transporting the glass sheet" and means connected respectively to the lower or upper supports a) for moving a respective support "to change the vertical position of the lower quench tubes . . ." and for moving "the rollers to a quench position . . ." and b) "to change the vertical position of the upper quench tubes", as disclosed in the specification and to which Applicants have a right to claim in view of the prior art cited in the '527 and '693 patents.

Harold A. McMaster, Norman C. Nitschke, Dexter H. McMaster and Ronald A. McMaster also hereby state that they have reviewed and understand the contents of the above-identified reissue application, including the claims, and acknowledge the duty to disclose information that is material to the examination of the application under Section 1.56(a) of Title 37 of the Code of Federal Regulations.

The undersigned hereby appoint Ernie L. Brooks, Reg. No. 26,260; James A. Kushman, Reg. No. 25,634; and Christopher J. Fildes, Reg. No. 32,132 to prosecute this reissue application and to transact all business in the Patent and Trademark Office connected therewith.

The undersigned declare further that all statements made herein of their own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the

knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: _____

HAROLD A. MCMASTER

Date: _____

NORMAN C. NITSCHKE

Date: _____

DEXTER H. MCMASTER

Date: _____

RONALD A. MCMASTER

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Reissue application of:

HAROLD A. MCMASTER et al.

Serial No. 775,418

Filed: October 15, 1991

For: GLASS SHEET BENDING AND TEMPERING APPARATUS

Attorney Docket No. GLT 1225 R

Group Art Unit: 1303

Examiner: K. Schor

I hereby certify that this correspondence is being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231 on

14 July 1992 by Christopher J. Fildes Christopher J. Fildes
Date of Deposit Registered Attorney Signature

DECLARATION OF CHRISTOPHER J. FILDES

Hon. Commissioner of Patents and Trademarks
Washington, D.C. 20231

I, Christopher J. Fildes, say that I am the patent attorney who prepared the patent application associated with the invention described and claims in Letters Patent No. 4,883,527 and in the foregoing reissue application and for which a reissue patent is being solicited; that I believe said patent to be wholly or partly inoperative by reason of insufficiency in the claims by claiming less than there was a right to claim in said patent; that such insufficiency specifically is due to not sufficiently broadly defining the apparatus of their invention by including in patent claim 1, *inter alia* limitations to

a glass "bending and tempering" apparatus and
an actuator

"for deforming said platen from a planar
shape to a bent shape" and

"constrainable and having the ability to
lift portions of said first platen a

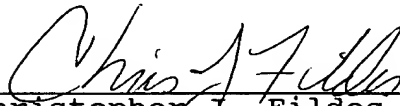
controlled distance to form the desired bent shape . . ."

whereas the coverage to which Applicants are entitled are embodied as in claims 17 through 20, wherein claim 17 broadly defines a glass tempering apparatus comprising, *inter alia*, "opposed first and second deformable platens, each of which has quench openings that move with the platens during deformation" in combination with "means for supplying quenching gas through the quench openings to temper the bent glass sheet" as disclosed in the specification and to which Applicants have a right to claim in view of the cited prior art; and wherein claims 18 and 19 broadly define glass bending and tempering apparatus having first and second deformable platens, each including "a deformable quench portion having quench openings that move with the platens" and in which "the quench portions (are) opposing each other with a bent glass sheet therebetween," in combination with "means to supply quenching gas through the quench openings to temper the bent glass sheet," as disclosed in the specification and to which Applicants have a right to claim in view of such art; that such insufficiency arose through error, in that, when I prepared the patent application, I did not fully appreciate the true scope of the invention and that this resulted in there being a limitation in the claims that was not essential for practicing the broad teachings of the invention disclosed in the patent; and that the foregoing errors arose without any deceptive intention on my part.

I also hereby declare that all statements made of my own knowledge are true and that all statements made on information and belief are believed to be true and that I am aware that willful false statements and the like are punishable by fine or imprisonment or both (18 U.S.C. 1001) and may

jeopardize the validity of this application or any patent resulting therefrom.

Respectfully submitted,
HAROLD A. MCMASTER et al
BROOKS & KUSHMAN



Christopher J. Fildes
Registration No. 32,132
1000 Town Center
Twenty-Second Floor
Southfield, Michigan 48075
(313) 358-4400

Dated: 14 July 1992



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

ASSISTANT SECRETARY, U.S. COMMISSIONER
OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

TO: EARL J. LAFONTAINE
BROOKS & KUSHMAN
SUITE 2000
2000 TOWN CENTER
SOUTHFIELD, MI 48075

UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF
- THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS
AVAILABLE AT THE U.S. PATENT AND TRADEMARK OFFICE ON THE REEL AND FRAME
NUMBER REFERENCED BELOW. A DIGEST OF THE DOCUMENT HAS ALSO BEEN MADE
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ASSIGNOR: 001 GLT CORP., A CORP. OF DE

DOC DATE: 00/00/00

RECORDATION DATE: 07/30/90 NUMBER OF PAGES 017 REEL/FRAME 5439/0758

DIGEST: MERGER - ADDITIONAL PROPERTIES MAY SUBSEQUENTLY BE INDEXED
AGAINST THE ORIGINAL DOCUMENT. THE PAPER REQUESTING SUCH INDEXING MUST
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5/19/89 - DE

ASSIGNEE: 501 GLASSTECH, INC., A DE CORP.

SERIAL NUMBER	5-968232	FILING DATE	12/11/78
PATENT NUMBER	4,222,763	ISSUE DATE	09/16/80

- SERIAL NUMBER	6-263626	FILING DATE	05/14/81
PATENT NUMBER	4,437,871	ISSUE DATE	03/20/84

SERIAL NUMBER	6-268535	FILING DATE	05/29/81
PATENT NUMBER	4,437,872	ISSUE DATE	03/20/84

SERIAL NUMBER	6-470153	FILING DATE	02/28/83
PATENT NUMBER	4,470,838	ISSUE DATE	09/11/84

SERIAL NUMBER	6-332504	FILING DATE	12/22/81
PATENT NUMBER	4,505,671	ISSUE DATE	03/19/85

SERIAL NUMBER	6-363689	FILING DATE	03/30/82
PATENT NUMBER	4,364,766	ISSUE DATE	12/21/82

*Original
in
GLT 0514 A*

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trade OfficeASSISTANT SECRETARY AND COMMISSIONER
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Washington, D.C. 20231

SERIAL NUMBER	6-346421	FILING DATE	02/05/82
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SERIAL NUMBER	6-337790	FILING DATE	01/07/82
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SERIAL NUMBER	6-263670	FILING DATE	05/14/81
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- SERIAL NUMBER	6-779873	FILING DATE	09/25/85
PATENT NUMBER	4,609,391	ISSUE DATE	09/02/86
SERIAL NUMBER	6-805316	FILING DATE	12/03/85
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- PATENT NUMBER	4,525,193	ISSUE DATE	06/25/85
SERIAL NUMBER	6-310332	FILING DATE	10/13/81
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SERIAL NUMBER	6-291610	FILING DATE	08/10/81
PATENT NUMBER	4,356,912	ISSUE DATE	11/02/82
SERIAL NUMBER	6-410100	FILING DATE	08/20/82
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SERIAL NUMBER	6-210457	FILING DATE	11/25/80
PATENT NUMBER	4,368,567	ISSUE DATE	01/18/83

CONTINUED 5439/0758



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SERIAL NUMBER	6-237828	FILING DATE	02/25/81
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PATENT NUMBER	3,806,312	ISSUE DATE	00/00/00
SERIAL NUMBER	5-456915	FILING DATE	04/01/74

CONTINUED 5439/0758



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trade Office

ASSISTANT SECRETARY AND COMMISSIONER
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Washington, D.C. 20231

PATENT NUMBER	3,881,887	ISSUE DATE	05/06/75
SERIAL NUMBER	5-435130	FILING DATE	01/21/74
PATENT NUMBER	3,907,132	ISSUE DATE	09/23/75
SERIAL NUMBER	7-121480	FILING DATE	11/17/87
PATENT NUMBER	4,775,404	ISSUE DATE	10/04/88
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PATENT NUMBER	4,586,946	ISSUE DATE	05/06/86
SERIAL NUMBER	6-390314	FILING DATE	06/21/82
PATENT NUMBER	4,425,406	ISSUE DATE	01/10/84
SERIAL NUMBER	6-038515	FILING DATE	05/14/79
PATENT NUMBER	4,226,608	ISSUE DATE	10/07/80
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SERIAL NUMBER	7-159110	FILING DATE	02/23/88
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PATENT NUMBER		ISSUE DATE	00/00/00
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SERIAL NUMBER	7-223913	FILING DATE	07/25/88
PATENT NUMBER	4,886,540	ISSUE DATE	12/12/89
SERIAL NUMBER	7-274459	FILING DATE	11/21/88
PATENT NUMBER	4,946,491	ISSUE DATE	08/07/90
SERIAL NUMBER	7-086971	FILING DATE	08/17/87
PATENT NUMBER	4,781,747	ISSUE DATE	11/01/88
SERIAL NUMBER	7-052025	FILING DATE	05/19/87
PATENT NUMBER	4,781,745	ISSUE DATE	11/01/88

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trade OfficeASSISTANT SECRETARY AND COMMISSIONER
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Washington, D.C. 20231

SERIAL NUMBER	7-042590	FILING DATE	04/15/87
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SERIAL NUMBER	7-153246	FILING DATE	02/08/88
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SERIAL NUMBER	6-590770	FILING DATE	03/19/84
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- SERIAL NUMBER	6-674083	FILING DATE	11/23/84
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SERIAL NUMBER	6-600391	FILING DATE	04/16/84
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SERIAL NUMBER	6-754572	FILING DATE	07/15/85
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SERIAL NUMBER	5-968231	FILING DATE	12/11/78
- PATENT NUMBER	4,202,681	ISSUE DATE	05/13/80
SERIAL NUMBER	6-118822	FILING DATE	02/05/80
PATENT NUMBER	4,282,026	ISSUE DATE	08/04/81
SERIAL NUMBER	6-674039	FILING DATE	11/23/84
PATENT NUMBER	4,575,390	ISSUE DATE	03/11/86
SERIAL NUMBER	6-222853	FILING DATE	01/06/81
PATENT NUMBER	4,404,011	ISSUE DATE	09/13/83
SERIAL NUMBER	7-249718	FILING DATE	09/27/88
PATENT NUMBER	4,883,527	ISSUE DATE	11/28/89

CONTINUED 5439/0758



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

ASSISTANT SECRETARY AND COMMISSIONER
OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SERIAL NUMBER 7-249719
PATENT NUMBER

FILING DATE 09/27/88
ISSUE DATE 00/00/00

JUL
30
1990

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

- Re: 1. Registrant's Certificate of Merger and
Name Change From GLT Corp. Into Glasstech, Inc.
2. Registrant's Name Change From GLT/Acquisition Corp.
To Glasstech, Inc.

TRANSMITTAL LETTER

Hon. Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

Transmitted herewith for recording is a copy of "U.S. Patent Assignment" and its attached "Schedule A" and a copy of the Certificate of Merger of GLT Corp. into Glasstech, Inc. wherein GLT Corp. has changed its name to Glasstech, Inc. Please record these items in connection with the enclosed patent Assignment and Schedule.

Please see the attached Transmittal Letters indicating that the recordal fees of \$56.00 and \$568.00 for recording the copy of the Certificate of Merger of GLT Corp. into Glasstech, Inc. and the U.S. Patent Assignment have already been paid.

Enclosed is a copy of United States Statutory Invention Registration No. H480.

Please charge any additional fee for this recording or credit any overpayment to our Deposit Account 02-3978 -- a duplicate copy of this paper is enclosed for that purpose.

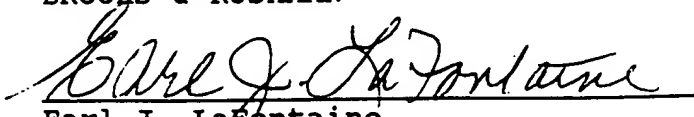
Respectfully submitted,

GLASSTECH, INC.

91524830

BROOKS & KUSHMAN

91524831


Earl J. LaFontaine
Registration No. 30,766
Attorney of Record
1000 Town Center
Twenty Second Floor
Southfield, Michigan 48075
(313) 358-4400

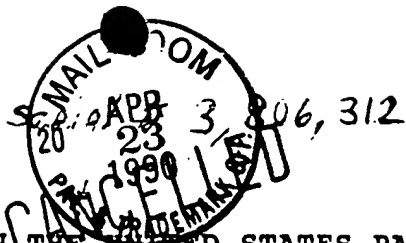
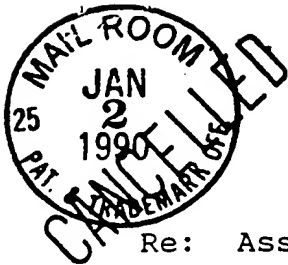
EJL/slk
Enclosures

Dated: July 27, 1990

90 AUG -3 AM 8:27
ASSIGNMENT BRANCH

RECEIVED

REEL 54, 39 FRAME 758



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re: Assignment of Patents From BOC

TRANSMITTAL LETTER

Hon. Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

Transmitted herewith for recording is a copy or a "U.S. Patent Assignment" and its attached "Schedule A".

Please record the U.S. Patent Assignment contained in Schedule C and, after recordal, return to the undersigned.

Enclosed is a check in the amount of \$56.00 to cover the fee for this recording.

Please charge any additional fee for this recording or credit any overpayment to our Deposit Account 02-3978 -- a duplicate copy of this paper is enclosed for that purpose.

Respectfully submitted,

GLASSTECH, INC.

BROOKS & KUSHMAN

Earl J. LaFontaine
Earl J. LaFontaine
Registration No. 30,766
Attorney of Record
2000 Town Center, Suite 2000
Southfield, Michigan 48075
(313) 358-4400

JUL 23 1992

GROUP 10

JAK/slk

Enclosure

Dated: December 22, 1989

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231 on

12/27/89
(Date of Deposit)

Earl J. LaFontaine
Reg. No. 30,766

Earl J. LaFontaine
(Signature)

140 01/11/90 3906312

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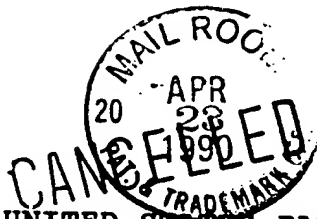
56.00 CK

REC 5439 FRAM 759

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90 JAN 12 PM 11:10

ASSIGNMENT EXAMIN



568.00 518 D
511/3.806 312

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

- Re: 1. Registrant's Certificate of Merger and Name Change From GLT Corp. Into Glasstech, Inc.
2. Registrant's Name Change From GLT Acquisition Corp. To Glasstech, Inc.

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ASSIGNMENT BRANCH
90 FEB 15 PM 2:53

TRANSMITTAL LETTER

Hon. Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

Transmitted herewith for recording is a copy of the Certificate of Merger of GLT Corp. into Glasstech, Inc. wherein GLT Corp. has changed its name to Glasstech, Inc. Please record these items in connection with the enclosed Patent Assignment and Schedule.

Enclosed is a check in the amount of \$568.00 to cover the fee for this recording out of the provisions of 37 C.F.R. Ch. 1 §1.21(h).

Please charge any additional fee for this recording or credit any overpayment to our Deposit Account 02-3978 -- a duplicate copy of this paper is enclosed for that purpose.

FEE VALUE ACCOUNTABILITY	
DEPOSIT ACCOUNT NO.	
02	3978
FEE CODE	VALUE FURNISHED
518	592.00

Respectfully submitted,

GLASSTECH, INC.

BROOKS & KUSHMAN

Earl J. LaFontaine

Earl J. LaFontaine
Registration No. 30,766
Attorney of Record
2000 Town Center, Suite 2000
Southfield, Michigan 48075
(313) 358-4400

91509392

X 91506607

JRT/slk
Enclosures
Dated: January 25, 1990

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addresses to: Commissioner of Patents and Trademarks, Washington, D.C. 20231 on

January 25, 1990
(Date of Deposit)

Earl J. LaFontaine
Reg. No. 30,66

Earl J. LaFontaine
(Signature)

REEL 5439 FRAME 760

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051789

SCHEDULE A
U.S. PATENTS

<u>FILE NUMBER</u>	<u>PATENT #</u>	<u>ISSUE DATE</u>	<u>INVENTOR(S)</u>	<u>TITLE</u>
/ GLT0719PUS (P-301)	3,806,312	4-23-74	H. McMaster et al	Roller Hearth Furnace
/ P-305	3,881,887	5-6-75	H. McMaster	Apparatus and Method for Grinding an Elongated Workpiece
/ GLT0721PUS (P-306)	3,907,132	9-23-75	H. McMaster, et al.	Glass Tempering System Apparatus
/ GLT0722PUS (P-307)	3,947,242	3-30-76	H. McMaster, et al.	Roller Hearth Furnace For Glass Sheets
/ P-308	3,936,291	2-3-76	H. McMaster	Glass Sheet Tempering Blasthead
/ P-309	3,957,479	5-18-76	H. McMaster, et al.	Glass Treating Furnace
/ P-310	3,930,831	1-6-76		Furnace for Heat Treating Glass Sheet Material
/ GLT0723PUS (P-311)	3,994,711	11-30-76	H. McMaster	Glass Tempering System Including Oscillating Roller Furnace
/ GLT0724PUS (P-312)	3,934,970	1-27-76	H. McMaster	Glass Tempering System
/ P-315	4,117,252	9-26-78	H. McMaster	High Temperature Furnace

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FILE NUMBER	PATENT #	ISSUE DATE	INVENTOR(S)	TITLE
/ P-316	4,133,667	1-9-79	J. Nitschke	Conveyor Drive Mechanism For A Glass Sheet Manufacturing System
/ P-318	4,140,486	2-20-79	N. Nitschke	Spring End Cap for Conveyor Rolls
/ GLT0726PUS (P-320)	4,130,019	12-19-78	J. Nitschke	Self-Compensated Thermocouple Reading Circuit
/ GLT0727PUS (P-324)	4,222,763	9-16-80	H. McMaster	Gas Jet Pump and Apparatus Using Same
/ GLT0728PUS (P-325)	4,202,681	5-13-80	H. McMaster, et al.	Vacuum Holder System and Method For Use In Bending Glass
/ P-326	4,204,854	5-27-80	H. McMaster, et al.	Apparatus and Method For Bending Glass
/ GLT0729PUS (P-327)	4,233,053	11-11-80	J. Nitschke	Speed Adaptive Conveyor Drive For A Glass Manufacturing System
/ P-328	4,240,816	12-23-80	H. McMaster, et al.	Method and Apparatus For Forming Tempered Sheet Glass With A Pyrolytic Film In A Continuous Process

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<u>FILE NUMBER</u>	<u>PATENT #</u>	<u>ISSUE DATE</u>	<u>INVENTOR(S)</u>	<u>TITLE</u>
/ GLT0731PUS (P-340)	4,341,546	7-27-82	N. Nitschke, et al.	Roll Drive Mechanism for Glass Sheet Processing Equipment
P-342	4,282,026	8-4-81	H. McMaster et al.	Apparatus for Bending and Tempering Glass
GLT0732PUS (P-345)	4,404,011	9-13-83	R. McMaster	Conveyor Roll End Cap
P-350	4,368,567	1-18-83	H. McMaster	Glass Conveyor Roll Finishing Technique
/ P-352	4,363,163	12-14-82	H. McMaster	Quench Roll Including Helically Wrapped Support
/ GLT0733PUS (P-355)	4,356,018	10-26-82	H. McMaster	Method & Apparatus For Deep Bending Glass Sheet
GLT0734PUS (P-357)	4,421,482	12-20-83	R. McMaster	Conveyor Roll For Conveying Heated Glass Sheets
GLT0735PUS (P-359)	4,361,432	11-30-82	H. McMaster	Apparatus and Method for Removing A Glass Sheet From A Carrier
GLT0736PUS (P-360)	4,364,765	12-21-82	H. McMaster, et al.	Apparatus and method For Handling Heated Glass Sheets
/ GLT0737PUS (P-361)	4,437,871	3-20-84	H. McMaster, et al.	Apparatus and method For Bending Glass Sheets

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/GLT0738PUS (P-362)	4,437,872	3-20-84	H. McMaster, et al.	Apparatus for Bending and Tempering Glass Sheets
/GLT0739PUS (P-364)	4,470,838	9-11-84	Ron McMaster, et al.	Composite Blasthead for Quench Station of Glass Sheet Tempering System
GLT0740PUS (P367)	4,360,374	11-23-82	J. Nitschke	Roll Operator For Glass Sheet Conveyor of Bending System
GLT0741PUS (P-369)	4,356,912	11-02-82	J. Nitschke	Conveyor Drive System For A Glass Sheet Manufacturing System
GLT0742PUS (P-370)	4,441,907	4-10-84	J. Nitschke	Apparatus and Method for Locally Heating Conveyed Glass Sheets
GLT0743PUS (P-371)	4,386,952	6-7-83	D. Nitschke	Glass Sheet Bending System Utilizing Gas Jets
GLT0744PUS (P-372)	4,475,937	10-9-84	J. Nitschke	Conveyor Controller for Glass Sheet Processing Equipment
GLT0745PUS (P-373)	4,407,650	10-4-83	R. Greenler	Adjustable Seal For Glass Sheet Furnace

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/GLT0764PUS (P-374)	4,505,671	3-19-85	H. McMaster	Glass Sheet Roller Conveyor Furnace Including Gas Heat Pump Heating
/GLT0747PUS (P-375)	4,364,766	12-21-82	J. Nitschke	Control System For Monitoring and Controlling the Processing of Glass Sheets In a Glass Processing Environment
/GLT0748PUS (P-376)	4,397,672	8-9-83	J. Nitschke	Glass Sheet Tempering Utilizing High Density Air Quenching
/GLT0749PUS (P-379)	4,512,460	4-23-85	R. McMaster	Glass Sheet Roller Conveyor Including Antifriction Drive Chain
/GLT0750PUS (P-380)	4,515,622	5-7-85	H. McMaster, et al.	Glass Sheet Quench Including Oppositely Angled Jets
/GLT0751PUS (P-381)	4,525,193	6-25-85	R. McMaster, et al.	Method and Apparatus for Supplying Cooling Air In A Glass Sheet Quench
/GLT0752PUS (P-385)	4,517,001	5-14-85	R. McMaster	Apparatus For Bending glass Sheets
/GLT0753PUS (P-388)	4,575,390	3-11-86	H. McMaster	Apparatus for forming glass Sheets

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<u>FILE NUMBER</u>	<u>PATENT #</u>	<u>ISSUE DATE</u>	<u>INVENTOR(S)</u>	<u>TITLE</u>
GLT0754PUS (P-390)	4,578,103	3-25-86	L. Fackelman	Glass Sheet Processing System Including topside Transfer Apparatus
GLT0755PUS (P-391)	4,514,208	4-30-85	D. Nitschke	Apparatus For Bending Glass Sheets
GLT0757PUS (P-394)	4,529,380	7-16-85	H. McMaster	Glass Sheet Roller Conveyor Furnace Including Gas Jet Pump Heating
GLT0757PUS (P-404)	4,620,864	11-4-86	H. McMaster	Glass Sheet Tempering Utilizing Heating and Quenching Performed in Ambient At Superatmospheric Pressure
GLT0767PUS (P-407)	4,661,141	4-28-87	D. Nitschke, et. al	Glass Sheet Press Bending System
GLT0768PUS (P-408)	4,609,391	9-2-86	H. McMaster	Method for Forming glass Sheets
GLT0774PUS (P-419)	4,615,724	10-7-86	L. E. Fackelman	Glass Sheet Forming System Including Topside Transfer Apparatus

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GLT0775PUS (P-420)	4,769,058	9-6-88	H. McMaster	Method of Making a Smooth Silica Glass Body
GLT0777PUS (P-422)	4,782,449	11-1-88	G. Brinker, et al.	Position Controller for Glass Sheet Processing System
GLT0778PUS (P-423)	4,681,616	7-21-87	H. McMaster	Glass Sheet Tempering method and Furnace
GLT0779PUS (P-424)	H480	6-7-88	W. Welch	Glass Sheet Bending Mold Having Wear Resistant Surface
GLT0780PUS (P-426)	4,807,144	2-21-89	S. Joehlin, et al.	Temperature Control System for Glass Sheet Furnace
GLT0782PUS (P-428)	4,784,681	11-15-88	H. McMaster	Combined Bending & Quench Station
GLT0783PUS (P-429) Conveyor	4,725,300	2-16-88	R. McMaster	Glass Sheet Heating System Including Cradled roll
GLT0784PUS (P-430)	4,781,747	11-1-88	Lindgren, et al.	Blow Back Control Device
GLT0785PUS (P-431)	4,781,745	11-1-88	E. Mumford	Antifriction Registration Device For Glass Sheet Shaping Tools

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<u>FILE NUMBER</u>	<u>PATENT #</u>	<u>ISSUE DATE</u>	<u>INVENTOR(S)</u>	<u>TITLE</u>
GLT0791PUS (P-437)	4,738,705	4-19-88	H. McMaster	Gas Burner Forced Convection Heating of Glass Sheets

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PENDING APPLICATIONS

<u>FILE NUMBER</u>	<u>SERIAL #</u>	<u>FILING DATE</u>	<u>INVENTOR(S)</u>	<u>TITLE</u>
GLT0781PUS (P-427)	253,716	10-5-88	A. Bueno, et al.	Method and Apparatus for Manufacturing Tooling Used In Bending Heated Glass Sheets
GLT0795PUS (P-441)	187,837	4-29-88	D.B.Nitschke	Vacuum Platen For Sharp Bends
GLT0802PUS (P-449)	223,913	7-25-88	D.B.Nitschke	Blow Back Control Device
GLT0804PUS (P-451)	249,718	9-27-88	H. McMaster	Bent Glass Sheet Quench
GLT0805PUS (P-452)	249,719	9-27-88	H. McMaster	Close Proximity Quenching
GLT0807PUS (P-454)	274,459	11-21-88	J. Barr	Glass Tempering

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U.S. ALLOWED APPLICATIONS

<u>FILE NUMBER</u>	<u>SERIAL NO.</u>	<u>FILING DATE</u>	<u>INVENTOR(S)</u>	<u>TITLE</u>
GLT0760PUS (P-397)	083,675	8-7-87	H. McMaster	Architectural Glass Bending System
GLT0776PUS (P-421)	856,060	4-17-86	G. Brinker et al.	Controller for Glass Sheet Processing System
/ GLT0799PUS (P-446)	159,110	2-23-88	H. McMaster	Gas Burner
) GLT0800PUS (P-447)	152,970	2-8-88	M. Cicak	Controlled Zone Defrosting System

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<u>FILE NUMBER</u>	<u>PATENT #</u>	<u>ISSUE DATE</u>	<u>INVENTOR(S)</u>	<u>TITLE</u>
GLT0786PUS (P-432)	4,775,404	10-4-88	J.Klempner, et al.	Apparatus for Registering Glass Sheet on Glass Sheet Shaping Tool
GLT0787PUS (P-433)	4,586,946	5-6-86	C.Kramer, et al.	Equipment for Curving glass Sheets
GLT0816PUS (P-463)	4,425,406	1-10-84	Horus P. Palma	Method and Apparatus for Producing Laminated Glass
GLT0817PUS (P-464)	4,226,608	10-7-80	H.McKelvey	Method & Apparatus for Curving Glass Sheets
	/ 4,441,909	4-10-84	H. McKelvey	Apparatus for Curving & Tempering Glass Sheets
	/ 4,743,285	5-10-88	H. McKelvey	Glass Bending Apparatus with Retractable Belts and and Method for Using Same



State of DELAWARE

Office of SECRETARY OF STATE

I, Michael Harkins, Secretary of State of the State of Delaware,
do hereby certify that the attached is a true and correct copy of
Certificate of Merger
filed in this office on May 19, 1989

REC-5439 FRAM 772



Michael Harkins

Michael Harkins, Secretary of State

BY: *J. Belin*

DATE: April 2, 1990

899135.25

FILED

MAY 19 1989

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SECRETARY OF STATE

CERTIFICATE OF MERGER
OF
GLT CORP
INTO
GLASSTECH, INC.

(Pursuant to Section 251 of the Delaware General Corporation Law)

Pursuant to the provisions of Section 251(c) of the General Corporation Law of the State of Delaware, the undersigned corporation, Glasstech, Inc., a Delaware corporation ("Glasstech"), does hereby certify to the following information relating to the merger of GLT Corp., a Delaware corporation, with and into Glasstech (the "Merger"):

FIRST: The name and state of incorporation of each of the constituent corporations to the Merger is:

<u>NAME</u>	<u>STATE OF INCORPORATION</u>
GLT Corp.	Delaware
Glasstech, Inc.	Delaware

SECOND: An Agreement and Plan of Merger has been approved, adopted, certified, executed and acknowledged by each of the constituent corporations in accordance with Section 251(c) of the General Corporation Law of the State of Delaware.

THIRD: The name of the corporation surviving the Merger is "Glasstech, Inc."

REEL 5439 FRAME 773